

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant : LIU  
Application No. : 10/779,648  
Filed : February 18, 2004  
Title : APPARATUS AND METHOD FOR CARRIER FREQUENCY OFFSET AND PHASE COMPENSATION IN COMMUNICATION SYSTEM  
Group Art Unit : 2661  
Examiner : Unknown  
Attorney Docket : 3111-420

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**TRANSMITTAL COVER SHEET**

Transmitted herewith for filing are the following:

1. INFORMATION DISCLOSURE STATEMENT, along with Form PTO-1449 (in duplicate) and copies of foreign documents and articles listed thereon.

The Commissioner is hereby authorized to charge any fees which may be required for the filing of this document to **Deposit Account No. 501874**.

Respectfully submitted,

Date: June 20, 2005

By:

  
Bruce H. Troxell  
Reg. No. 26,592

TROXELL LAW OFFICE PLLC  
5205 Leesburg Pike, Suite 1404  
Falls Church, Virginia 22041  
Telephone: (703) 575-2711  
Telefax: (703) 575-2707

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : LIU  
Application No. : 10/779,648  
Filed : February 18, 2004  
Title : APPARATUS AND METHOD FOR CARRIER FREQUENCY OFFSET AND PHASE COMPENSATION IN COMMUNICATION SYSTEM  
Group Art Unit : 2661  
Examiner : Unknown  
Attorney Docket : 3111-420

**OFFICE OF INITIAL PATENT EXAMINATION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In compliance with the duty of disclosure under 37 CFR 1.56, and 37 CFR 1.97-1.98, the documents listed on the attached form PTO-1449 are hereby made of record in this patent application. Copies of the articles and any foreign patent documents are enclosed.

As this Information Disclosure Statement is being filed prior to the mailing of the first Official Action in this application, no fee is believed due in order to have the enclosed references considered by the Examiner and made of record in the application.

Early action on the merits of the application is earnestly solicited.

Respectfully submitted,



Date: June 20, 2005

By:

Bruce H. Troxell  
Reg. No. 26,592

**TROXELL LAW OFFICE PLLC**  
5205 Leesburg Pike, Suite 1404  
Falls Church, Virginia 22041  
Telephone: (703) 575-2711  
Telefax: (703) 575-2707

FORM PTO 1449 (modified)				PATENT & TRADEMARK OFFICE		UTILITY DOCKET NO. 3111-420		APPLICATION NO. 10/779,648			
U.S. DEPARTMENT OF COMMERCE				LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)		APPLICANT LIU					
Date Submitted to PTO: June 20, 2005						FILING DATE February 18, 2004		GROUP 2661			
U.S. PATENT DOCUMENTS											
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME		CLASS	SUBCLASS	FILING DATE IF APPROPRIATE			
/S.P./		5285474	Feb. 8, 1994	Chow et al.							
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)											
/S.P./		Jack S. Chow, Jerry C. Tu, and J.M. Cioffi, "A Discrete Multitone Transceiver System for HDSL Applications", IEEE J. on Sel Areas in Comm., Vol. 9, No. 6, pp. 895-908, August 1991									
		J.S. Chow, J.M. Cioffi, and J.A.C. Bingham, "Equalizer training algorithms for multicarrier modulation system", ICC, pp. 761-765, May 1993									
		J.W. Melsa, Richard C. Younce and Charles E. Rohrs, "Impulse Response Shortening for Discrete Multitone Transceivers", IEEE Trans. on Comm., Vol. 44, No. 12, pp. 1662-1672, December 1996									
		N. Al-Dhahir and J.M. Cioffi, "Efficiently computed reduced-parameter input-aided MMSE equalizers for ML detection: A unified approach", IEEE Trans. on Info. Theory, Vol. 42, pp. 903-915, May 1996									
		N. Al-Dhahir and J.M. Cioffi, "Optimum finite-length equalization for multicarrier transceivers", IEEE Trans. on Comm., Vol. 44, pp. 56-63, Jan. 1996									
		Werner Henkel, and Thomas Kessler, "Maximizing the Channel Capacity of Multicarrier Transmission by Suitable Adaptation of the Time-Domain Equalizer", IEEE Trans. on Comm., Vol. 48, No. 12, December 2000									
		Katleen et al., "Per Tone Equalization for DMT-Based Systems", IEEE Trans. on Comm., Vol. 49, No. 1, Jan. 2001									
/S.P./		Guner Arslan et al., "Equalization for Discrete Multitone Transceivers to Maximize Bit Rate", IEEE Trans. on Signal processing.									
EXAMINER		/Sudhanush Pathak/				DATE CONSIDERED		02/20/2008			

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO 1449 (modified)  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)		ATTY DOCKET NO. 3111-420	APPLICATION NO. 10/779,648		
Date Submitted to PTO: June 20, 2005		APPLICANT LIU			
		FILING DATE February 18, 2004	GROUP 2661		
U.S. PATENT DOCUMENTS					
*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS FILING DATE IF APPROPRIATE
OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)					
/S.P./	Zheng Du, and Jinkang Zhu, "A pilot-based frequency offset tracking scheme in OFDM systems", 2001 International Conferences on Info-Tech and Info-Net, Vol 2, pp. 566-571, Beijing, China, October 29, 2001 - November 1, 2001				
	Yan Zhang and Xiaohu Yu, "An improved automatic frequency correction scheme for discontinuous pilot mobile communication system," IEEE 2001 Spring Vehicular Technology Conference, Vol. 3, pp 1708-1712, Rhodes, Greece, 6-9, May 2001.				
	Yang-Seok, Choi, P.J. Voltz, and F.A. Cassara, "ML estimation of carrier frequency offset for multicarrier signals in Rayleigh fading channels, " IEEE Transactions on Vehicular Technology, Vol. 50, pp. 644-655, March 2001.				
	Bor-Sen Chen, and Chang-Lan Tsai, "Frequency offset estimation in an OFDM system," 2001 IEEE Third Workshop on Signal Processing Advances in Wireless Communications (SPAWC '01) pp. 150-153, Taiwan, 20-23 March 2001.				
	M.J. Fernandez-Getino Garcia, O. Edfors, and J.M. Paez-Borrallo, "Frequency offset correction for coherent OFDM in wireless systems", IEEE Transactions on Consumer Electronics, Vol. 47, pp. 187-193, Feb. 2001				
	M.R. Dacca, G. Levin, and D. Wulich, "Frequency offset tracking in OFDM based on multicarrier PLL.", 21st Century Military Communications Conference, vol. 2, pp. 912-916, 22-25 October 2000.				
	John A. C. Bingham, "Multi-Carrier Modulation for Data Transmission: An Ideal Whose Time Has Come" IEEE Communication Magazine, May 1990, page 5-14.				
	Thierry Pollet and Miguel Peeters, Alcatel "Synchronization with DMT Modulation" IEEE Communications Magazine, April 1999.				
↓	Thierry Pollet, Paul Spruyt and March Moeneclaey, "The BER Performance of OFDM Systems Using Non-Synchronize Sampling", Proc. Globecom '94, San Francisco, CA, Dec. 27-29, 1994, pp. 253-257.				
/S.P./	Leland B. Jackson, "Signals, Systems, and Transforms", Addison-Wesley Publishing Company, Inc., 1991, Page 410.				
EXAMINER		/Sudhanshu Pathak/		DATE CONSIDERED	02/20/2008

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.